

عنوان مقاله:

Determining the Number of Accusations for Decision Making in Key Revocation Protocol for MANET

محل انتشار:

مجله محاسبات و امنیت, دوره 3, شماره 1 (سال: 1395)

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خلاصه مقاله:

Considering the dynamic and wireless topology of the mobile ad hoc networks (MANETs), the implementation of security in such networks is an important problem. Key revocation is a solution for this challenge which prevents the continuous presence of the attacker in the network and disclosure of confidential information. In some suggested key revocation protocols such as Liu et al.'s scheme, each node monitors the network and will send an accusation packet to the authority center if it receives a suspicious behavior from the neighboring nodes. Then, the authority center decides to revoke the key of the accused node based on the number of received accusations. Due to the fact that the participation of the nodes is time consuming, the threshold for the number of accusations is an important factor for key revocation procedure. In this paper, a stochastic model is presented to determine the optimal threshold for the number of accusations and the appropriate time for decision making in the key revocation protocol. Based on some assumptions, the threshold parameter is used in key revocation scheme of Liu et al. and results are evaluated by simulation. Simulation results show that the proposed threshold for the number of accusation packets enhances the efficiency and effectiveness of the key revocation protocol for MANET.

کلمات کلیدی:

Ad Hoc Network, Key Revocation, Accusation Packet, Key Management

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